

reference as teaching an embodiment wherein the membrane is folded to create a "U" shape having two grooves on the bottom.

Applicants respectfully traverse this rejection. Independent claim 1 recites an asymmetric porous membrane comprising a blood supply portion, a development portion, and a blood-cell blocking portion formed between the supply portion and the development portion. The pores in the blood-blocking portion include only pores through which blood cells cannot pass, and only blood plasma or blood serum moves into the development portion. The present invention, therefore, is able to develop blood plasma within the same membrane on which the blood sample was initially applied and separated.

Bunce et al. do not disclose a membrane having a development portion. Rather, as illustrated in Figure 1A, Bunce et al. teach a lateral flow filter device comprising a large pore material (1) in close contact with a smaller pore material (2). As stated at column 5, lines 41-46, the large pore material allows passage of both erythrocytes and plasma, while the small pore material only allows passage of plasma. The plasma passes through the small pore material into a separate assay device (9) via a filtrate outlet region (4) (column 5, lines 46-51). Thus, the Bunce et al. device, unlike the device recited in claim 1, does not provide a development portion located within the membrane. The Bunce et al. device, rather, requires a separate assay device (9) for collecting the plasma from the lateral flow filter device and developing the plasma. Applicants respectfully submit, therefore, that claim 1 is patentable over Bunce et al. at least for this reason. Since claims 2-4, 6-7, 10-17, 19-20, and 24 each depend from, and add additional limitations to, claim 1, Applicants submit that these claims are also patentable over Bunce et al. Withdrawal of this rejection is requested.

Additionally, claim 2 of the present invention recites that the blood testing tool comprises "a groove formed between the blood supply portion and the development portion, wherein a portion between a bottom of the groove and a part of a surface of the asymmetric porous membrane corresponding to the bottom is the blood-cell blocking portion." A portion of the blood cell blocking portion, therefore, remains between the groove and the bottom of the membrane.

Applicants respectfully submit that Bunce et al. do not disclose a groove wherein a portion of a membrane between the groove and the bottom of the membrane is a blood-cell blocking portion. Rather, Bunce et al. merely discloses, as illustrated in Fig. 5A, a membrane (51) that has been folded to create a "U" shape to accommodate an inlet aperture (54). Bunce et al. nowhere discloses that the portion of the membrane between the bottom of the inlet aperture and the bottom of the membrane is the blood-cell blocking portion. Rather, the structure of the membrane portion that is disposed below inlet aperture (54) is no different from the structure of the rest of the membrane. Applicants submit, therefore, that claim 2 is patentable over Bunce et al. at least for this additional reason. Since claims 12-13 each depend from, and add additional limitations to, claim 2, Applicants submit that these claims are also patentable over Bunce et al. for this additional reason.

Claims 1, 3, 6-11, 14-21, and 24 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Douglas et al. The Examiner is understood to argue that Douglas et al. teach a test device comprising a filtration membrane to remove red blood cells and means for analysis.

Applicants respectfully traverse this rejection. As stated above, independent claim 1 recites an asymmetric porous membrane comprising a blood supply portion, a development portion, and a blood-cell blocking portion formed between the supply portion and the development portion. Applicants submit that Douglas et al. do not disclose a blood supply portion, a development portion, and a blood-blocking portion all located within a single asymmetric porous membrane. Applicants submit that claims 1, 3, 6-11, 14-21, and 24 are patentable over Douglas et al. Withdrawal of this rejection is requested.

35 U.S.C. § 103

Claims 5, 18, and 21-23 stand rejected under 35 U.S.C. § 103 as being unpatentable over Bunce et al. These claims are allowable at least for the reasons given above for claim 1. Applicants do not concede the relevance of Bunce to the features of claims 5, 18, and 21-23.

Claims 8-9 stand rejected under 35 U.S.C. § 103 as being unpatentable over Bunce et al. in view of Douglas et al. Applicants respectfully traverse this rejection. Similarly to the previous rejections, Applicants do not concede the relevance of Bunce to the features of these

claims, since Bunce does not disclose a membrane having a development portion. Applicants respectfully submit that Douglas et al. does not cure these deficiencies. Therefore, Applicants submit that neither Douglas et al. nor the combination of Douglas et al. and Bunce et al. discloses or suggests a blood testing tool having all limitations of these claims. Withdrawal of this rejection is respectfully requested. Applicants do not concede the relevance of the references to these claims.

Claims 2 and 12-13 stand rejected under 35 U.S.C. § 103 as being unpatentable over Douglas et al. in view of Bunce et al. Applicants respectfully traverse this rejection. As stated regarding the previous rejections, neither Bunce nor Douglas et al. disclose or suggest an asymmetric porous membrane having a development portion as recited in the claims. Withdrawal of this rejection is respectfully requested. Applicants do not concede the relevance of the references to these claims.

Finally, claims 4-5 and 22-23 stand rejected under 35 U.S.C. § 103 as being unpatentable over Douglas et al. Applicants respectfully traverse this rejection on the grounds that neither Bunce nor Douglas et al. disclose or suggest an asymmetric porous membrane having a development portion as recited in the claims. Withdrawal of this rejection is respectfully requested. Applicants do not concede the relevance of the references to these claims.

SUMMARY

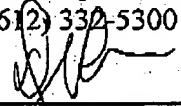
Applicants submit that all pending claims are in condition for allowance, and notice to that effect is earnestly solicited. The Examiner is invited to contact Applicants' representative at the below-listed telephone number, if it is believed that prosecution of this application may be assisted thereby.

Dated: March 12, 2003

By: _____

Respectfully submitted,

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